

WHAT IS CLAIMED IS:

1                   1.       A method for providing the communication of information services  
2 between customer premises equipment (CPE) at a customer's premises and a source of the  
3 information services, comprising:

4                   providing a demarcation device at the customer's premises, wherein the  
5 demarcation device defines an interface between an external transport medium that is  
6 substantially external to the customer's premises and an internal transport medium that is  
7 substantially internal to the customer's premises;

8                   establishing a virtual private network (VPN) between the demarcation device  
9 and the source of information services;

10                  establishing a virtual local area network (VLAN) between the demarcation  
11 device and the CPE.

1                   2.       The method of claim 1, further comprising:

2                   receiving a signal at the demarcation device from the source of the information  
3 services via the VPN;

4                   consulting a routing table at the demarcation device to determine the VLAN of  
5 the CPE; and

6                   routing the signal to the CPE via the VLAN.

1                   3.       The method of claim 1, wherein establishing a VLAN between the  
2 demarcation device and the CPE comprises:

3                   establishing an interface between the CPE and the demarcation device;

4                   transmitting information from the CPE to the demarcation device via the  
5 interface, wherein the information comprises an address of the CPE; and

6                   writing at least a portion of the information to a routing table, wherein the  
7 routing table also comprises a VLAN tag that identifies the VLAN between the CPE and the  
8 demarcation device.

1                   4.       The method of claim 3, wherein the interface between the CPE and the  
2 demarcation device comprises a selection from the group consisting of fiber optic connection,  
3 coaxial connection, twisted pair copper wire connection, and wireless connection.

1                   5.       The method of claim 1, wherein establishing a VPN between the  
2 demarcation device and the source of information services comprises:

3                    establishing an interface between the demarcation device and the source of  
4 information services; and

5                    writing information to a routing table at the demarcation device, wherein the  
6 information identifies a service and a termination location of the VPN.

1                    6.        The method of claim 5, wherein the service comprises a selection from  
2 the group consisting of voice, data, and video.

1                    7.        The method of claim 5, wherein the service comprises a selection from  
2 the group consisting of video on demand, voice over internet protocol, broadband Internet  
3 access, television programming, online gaming, music on demand, instant messaging, and  
4 alarm systems signaling.

1                    8.        The method of claim 5, wherein the service comprises utility  
2 monitoring and control.

1                    9.        The method of claim 5, wherein the interface between the demarcation  
2 device and the source of information services comprises a selection from the group consisting  
3 of fiber optic connection, coaxial connection, twisted pair copper wire connection, wireless  
4 connection, and satellite-based connection.

1                    10.      A demarcation device configured to facilitate the communication of  
2 information services between customer premises equipment (CPE) at a customer's premises  
3 and a source of the information services, comprising:

4                    means for establishing a virtual private network (VPN) with a source of  
5 information services, wherein signals are received at the demarcation device from the source  
6 of information services via an interface comprising an external transport medium  
7 substantially external to the customer's premises;

8                    means for establishing a virtual local area network (VLAN) with the CPE,  
9 wherein signals are sent from the demarcation device to the CPE via an interface comprising  
10 an internal transport medium substantially interior to the customer's premises; and

11                    a routing table that stores information used to map signals from the VPN of  
12 the source of information services to the VLAN of the CPE.

1                   11.     The device of claim 10, wherein the interface between the CPE and the  
2 demarcation device comprises a selection from the group consisting of fiber optic connection,  
3 coaxial connection, twisted pair copper wire connection, and wireless connection.

1                   12.     The device of claim 10, wherein the service comprises a selection from  
2 the group consisting of voice, data, and video.

1                   13.     The device of claim 10, wherein the service comprises a selection from  
2 the group consisting of video on demand, voice over internet protocol, broadband Internet  
3 access, television programming, online gaming, music on demand, instant messaging, and  
4 alarm systems signaling.

1                   14.     The device of claim 10, wherein the service comprises utility  
2 monitoring and control.

1                   15.     The device of claim 10, wherein the interface between the demarcation  
2 device and the source of information services comprises a selection from the group consisting  
3 of fiber optic connection, coaxial connection, twisted pair copper wire connection, wireless  
4 connection, and satellite-based connection.

1                   16.     A method of registering customer premises equipment (CPE) at a  
2 customer's premises with a demarcation device to receive information services from a source  
3 of the information services via a virtual private network (VPN), comprising:

4                   establishing a VPN between the demarcation device and the source of  
5 information services, wherein the VPN is comprised by an external transport medium  
6 substantially exterior to the customer's premises;

7                   establishing an interface between the CPE and the demarcation device,  
8 wherein the interface is comprised by an internal transport medium substantially internal to  
9 the customer's premises;

10                  establishing a virtual local area network (VLAN) between the CPE and the  
11 demarcation device by transmitting an address of the CPE to the demarcation device and  
12 storing at least a portion of the address in a routing table of the demarcation device, wherein  
13 the routing table comprises a CPE receiving device.

1                   17.     A demarcation device configured to facilitate the communication of  
2 information services between customer premises equipment (CPE) at a customer's premises  
3 and a source of the information services, comprising:

4                   an interface between an internal transport medium substantially internal to the  
5 customer's premises and an external transport medium substantially external to the  
6 customer's premises; and

7                   a microserver programmed to:

8                   serve as a termination point for a virtual private network (VPN)  
9 between the demarcation device and the source of information services;

10                  serve as a termination point for a virtual local area network (VLAN)  
11 between the demarcation device and the CPE; and

12                  map signals received from the source of information services via the  
13 VPN to the CPE via the internal transport medium.

1                   18.     The demarcation device of claim 17, wherein the microserver is further  
2 programmed to establishing a virtual local area network (VLAN) with the CPE by receiving  
3 an address of the CPE and storing at least a portion of the address in a routing table, wherein  
4 the routing table comprises a VLAN tag that identifies a VLAN between the demarcation  
5 device and the CPE.

1                   19.     The demarcation device of claim 17, wherein the service comprises a  
2 selection from the group consisting of voice, data, and video.

1                   20.     The demarcation device of claim 17, wherein the service comprises  
2 utility monitoring and control.